

TABLE 1. Frequency of mate change and mate fidelity for Ring-billed Gulls at the Calcite colony.

	Changed mate	Changed location	Changed mate & location	Same mate & location
Females	9	1	1	18
Males	12	1	3	18
Unknown sex	2	0	0	0
TOTAL	23	2	4	36
	(35.4%)	(3.1%)	(6.2%)	(55.4%)

Gulls are needed to determine the function of mate fidelity in this species, and the influence of various proximate factors on this behavioral tendency.

We thank the Northeastern Bird-Banding Association for financial support during part of this study through the E. Alexander Bergstrom Award to the senior author. U.S. Steel generously allowed us access to the colony site.

#### LITERATURE CITED

- BLOKPOEL, H., AND P. COURTNEY. 1980. Site tenacity in a new Ring-billed Gull colony. *J. Field Ornithol.* 51:1-5.
- COULSON, J. C. 1972. The significance of the pair-bond in the Kittiwake. Pp. 424-433 in *Proc. XV Inter. Ornithol. Congr.*, K. H. Voous, ed. E. J. Brill, Leiden, Netherlands.
- DROST, R., E. FOCKE, AND G. FREYTAG. 1961. Entwicklung und Aufbau einer Population der Silbermowe. *Larus a. argentatus*. *J. f. Ornithol.* 102:404-429.
- KOVACS, K. M., AND J. P. RYDER. 1981. Nest-site tenacity and mate fidelity in female-female pairs of Ring-billed Gulls. *Auk* 98:625-627.
- MILLS, J. 1973. The influence of age and pair-bond on the breeding biology of the Red-billed Gull *Larus novaehollandiae scopulinus*. *J. Anim. Ecol.* 42:147-162.
- NELSON, B. 1978. The Gannet. T. & A. D. Poyser. Berkhamsted, Hertfordshire.
- RICHDALE, L. E. 1951. Sexual behavior in penguins. Univ. Kansas Press, Lawrence.
- SOUTHERN, L. K., AND W. E. SOUTHERN. 1979. Philopatry in Ring-billed Gulls. *Proc. 1979 Conf. Colonial Waterbird Group* 3:27-32.
- SOUTHERN, W. E. 1971. Evaluation of a plastic wing-marker for gull studies. *Bird-Banding* 42:88-91.
- , AND L. K. SOUTHERN. 1981. Colony census results as indicators of pre-hatching perturbations. *Colonial Waterbirds* 4:143-149.
- VERMEER, K. 1963. The breeding ecology of the Glaucous-winged Gull (*Larus glaucescens*) on Mandarte Island. *B.C. Occ. Papers*, B.C. Prov. Museum, No. 13.
- LINDA K. SOUTHERN AND WILLIAM E. SOUTHERN, *Department of Biological Sciences, Northern Illinois University, DeKalb, Illinois 60115*. Received 1 Sept. 1981; accepted 29 Jan. 1982.

**Foraging by Cattle Egrets and American Kestrels at a Fire's Edge.**—We observed Cattle Egrets (*Bubulcus ibis*) and American Kestrels (*Falco sparverius*) to congregate at both controlled and naturally occurring fires in southcentral Florida. On 27 December 1980, at approximately 11:00, we observed a burning sugar cane field near Clewiston, Florida. The berm between the cane field and a secondary road was covered by grasses and weedy forbs, most under 0.25 m in height. A line of fire advanced across the berm in a northwest breeze and 12 Cattle Egrets foraged on the ground within 1 m of the flames. The egrets were not repelled by the smoke and several egrets flew through dense clouds of it. On the other side of the road, several flocks of Cattle Egrets foraged between rows of smoldering cane stalks in a recently burned field.

Winter months in southcentral Florida are typically dry and naturally occurring fires

are common. On 5 January 1981, at approximately 15:30, we observed a fire in the scrublands near Immokalee, Florida. Vegetation consisted primarily of grasses .25 to .75 m in height, longleaf pine (*Pinus palustris*) saplings, and scattered clumps of saw-palmetto (*Serenoa repens*). The fire had burned about 1 ha and advanced in a northeast breeze. Cattle Egrets flew through the smoke and foraged on the ground within 1 m of the flames on both the windward and leeward edges of the fire. American Kestrels hunted along the windward edge only.

Because utility lines are the preferred perches for hunting kestrels, densities may be expressed in a linear fashion. The highest density of hunting kestrels observed in the vicinity of Immokalee during the winter of 1980–1981 was .93 per km (15 per 16.15 km), recorded one day prior to the fire. During the fire 15 kestrels hunted along the approximately 150 m windward edge, representing about a hundredfold increase in concentration. Because of the irregular spatial distribution of individuals and flocks of Cattle Egrets, local density fluctuations attributed to the fire were not quantitatively measured.

All foraging by Cattle Egrets occurred on the ground. Although specific prey items were not determined, prey items captured by egrets were apparently small vertebrates and invertebrates which did not fly in response to the approaching flames but remained stationary or attempted escape on the ground. Kestrels preyed exclusively on insects which flew away from the fire into the wind, catching them on the wing by hovering 2 to 4 m about the ground and performing shallow stoops. No interaction between kestrels and egrets was observed and competition for specific prey items was probably negligible.

Cattle Egrets have been reported foraging along a line of flames at grass fires in South Africa and flying in dense smoke from burning cane fields in Puerto Rico, and American Kestrels have been reported to appear at controlled burning operations in the southeastern United States (Komarek, Proc. Tall Timbers Fire Ecol. Conf. 9:161–207, 1969). Komarek (op. cit.) summarized the animal species reportedly attracted to fires.—  
JOHN A. SMALLWOOD, MARK WOODREY, NATHAN J. SMALLWOOD, AND MARY ANNE KETTLER, Department of Zoology, Miami University, Oxford, Ohio 45056. Received 27 May 1981; accepted 7 Dec. 1981.

#### Further Observations of Predation by Black-billed Magpies on Small Mammals.—

Black-billed Magpies (*Pica pica*), permanent residents of the Canadian prairies, feed on a wide range of animal and vegetable matter (Bent, U.S. Natl. Mus. Bull. 191, Part 1, 1946). While small mammals comprise 7–10% of their diet (Linsdale, Pac. Coast Avif. No. 25, 1937), it is not clear if their presence in the diet of magpies is the result of predation or if it reflects the tendency of this species to feed upon road-killed animals or other carrion. This note describes 2 observations of magpies killing or capturing small mammals. The observations were made from a car with a 20× telescope in agricultural land east of Calgary, Alberta.

On 8 February 1977, at 1300 (MST), I observed a magpie attacking a *Microtus pennsylvanicus* which was sitting on top of the snow. The vole was very aggressive and attacked the bird every time it made an attempt to strike with its bill. This “fencing” occurred several times until the magpie was on top of the vole, pecking it several times. At this point, a Snowy Owl (*Nyctea scandiaca*) flew at the 2 animals, causing the magpie to fly rapidly away. The vole remained still (dead?) and the owl landed on it and ate it.

On 16 February 1978, while observing a Snowy Owl, I noticed a magpie land in a roadside ditch and begin pecking vigorously at something in the snow. The bird then flew carrying a small mammal in its bill and landed in a nearby tree. The prey was tentatively identified as *Peromyscus maniculatus* as it had a long tail and light-colored pelage. After perching for several seconds, the bird flew to the ground at the base of the tree. Several minutes later it returned to its original perch with snow covering its bill. I investigated the area and found no signs of the prey. I suspect that the mouse had been ingested.

I have also observed magpies showing interest in owls which had captured and were ingesting small mammals. In addition, J. Keizer, a former employee at the Provincial Museum of Alberta, observed a magpie killing a Little Brown Bat (*Myotis lucifugus*). I observed a magpie attempting unsuccessfully to capture a small bat at Calgary.